ADAPTIVE ENCODING AND DECODING OF BI-LEVEL IMAGES

ABSTRACT OF THE DISCLOSURE

A system and process for encoding and later decoding of bi-level images that does not use arithmetic coding, but whose performance is close to that of state-of-the-art coders such as JBIG, JBIG-2, and JB2. In general, the present bi-level coder (BLC) uses two context-based adaptive modules: 1) an adaptive predictor controlled by low-resolution probability estimates that is used to map the original pixels explicitly into prediction error pixels, and 2) a backward-adaptive Run-Length-Rice (RLR) coder that encodes the prediction error pixels. That's contrary to the usual approach where the context-dependent probability estimate controls both pixel prediction and adaptive entropy coding. Due to its simplicity, in many applications BLC may be a better choice other current coders.